

where been tamed, and so as to form the stock now living of any tame race, has not perhaps through any comparisons been fully shown; but Prof. Owen supposes that the small-grown, small-horned, often hornless cattle in Wales and in the Highlands of Scotland descended from that race which he considers was tamed before the invasion of the Romans, by the original inhabitants; when, on the conquest of the country, they fled with their herds to the woody mountain-tracts. If it exists among us in any tame race of cattle, it would seem to be in the so-called *Finn* cattle.

The forehead more broad than long, convex: the horns set on anterior to the ridge which separates the forehead from the occiput. The intermaxillary bones never reach up as far as the nasal bones.

XXXVIII.—*Observations on Mr. Morris's paper on the Excavating Sponges.* By ALBANY HANCOCK, Esq.

*To Richard Taylor, Esq.*

DEAR SIR,

Newcastle-upon-Tyne, Oct. 15, 1849.

I HAD much pleasure on reading in the last Number of the 'Annals,' Mr. Morris's abstract of the papers published by Dr. Nardo and M. Michelin on the Excavating Sponges, and am only sorry that I was not aware of the investigations of these naturalists at the time I drew up my own observations on the subject. The access to scientific works in the country is very limited, and those referred to by Mr. Morris I have had no opportunity of seeing.

When, in my paper read at the Swansea Meeting of the British Association, I first stated my belief that *Cliona* excavated the chambers it inhabits, the assertion met with such general opposition, that I must confess I am now somewhat surprised on being informed that this subject had been so fully discussed some years ago; so far at least as relates to the question whether or not these sponges make the holes in which they are found concealed. Indeed it seems strange that there should ever have been two opinions on this point; for after the attention has once been called to it, a single specimen, in good condition, is sufficient to convince the inquirer that *Cliona* does really form its complicated habitation. This appeared to me so evident on examining the first specimens I procured, that had this fact not been disputed by naturalists of great eminence, I should never have thought it necessary to have dwelt so long on it. At that time I should have had great pleasure in quoting Nardo or Michelin in confirmation of this part of the argument, which was

preliminary to the discussion on the mode by which the excavations are effected;—the principal object of my paper being to show a similarity in this respect between *Cliona* and the excavating *Mollusca*.

Dr. Grant, whose opinion I quoted in my paper, and who wrote on the subject many years previous to the appearance of Dr. Nardo's memoir, seems to be the first to have asserted the probability of *Cliona* forming its own abode. He says, "It may be questioned whether the sharp siliceous spicula and constant currents of its papillæ do not exert some influence in forming or enlarging the habitation of this zoophyte." Mr. Wm. M'Calla, too, was quoted as having stated that *Cliona* was "very destructive to the shells that came within its reach." And from the fact that M. Duvernoy had named a species *terebrans*, it was inferred that he also was convinced that these sponges formed the chambers they occupy, though I knew no more of what he had written on the subject than appears in the 'Microscopic Journal.' It is therefore pretty evident that I had no pretension to the discovery of the fact that *Cliona* has the power of burying itself in hard calcareous bodies; though I found it necessary to put this matter, so far as I was able, beyond a doubt. In this respect the researches of Nardo and Michelin are of the greatest value; for confirmation is still required, as it appears all are not yet satisfied that a sponge can penetrate shell and stone. It would have been well, therefore, if Mr. Morris had given the abstract at greater length.

It may be questioned, however, how far the Italian naturalist is justified in discarding the name given to these sponges by Dr. Grant, merely because that gentleman did not fully understand the nature of the production he described. Were such a principle to be admitted, nomenclature would be for ever fluctuating, and hundreds of names used by the early writers might be at once superseded. Dr. Grant's description is excellent, full and clear; so that even the species may be determined. Why then should he be stripped of the honour of his discovery? Had there been any obscurity,—any difficulty in determining what was meant, then there might have been some plea for adopting the generic appellation of a subsequent observer; but even Nardo himself does not appear to doubt that his genus is identical with the *Cliona* of Grant.

Neither can I at present assent to Mr. Morris's opinion, that my two species *C. Fryeri* and *C. spinosa* are identical with *Vioa Nardina* and *V. Michelinii*. This there is reason to doubt. I have certainly not seen the figures referred to, but the descriptions are not full enough for identification; and indeed, so far as they go, do not very well agree with my species. The charac-

ters of the spicula however are not given, and without a knowledge of these, no very conclusive opinion ought to be formed on the subject. In the abstract of Nardo's report, we casually learn, undoubtedly, that the spicula are "sharp at one end and rounded at the other" in *V. Michelini*; but in the *C. spinosa*, which Mr. Morris considers identical with it, they are of two kinds; one fusiform and bent in the centre, the other with a globular enlargement at one end. It would therefore seem probable that these two species at least are distinct. The fact of specimens occurring in the same species of shell is not of much value in determining their identity: I have already described six or seven species procured from the same matrix.

I remain, dear Sir, yours truly,

ALBANY HANCOCK.

XXXIX.—*Contributions to the Botany of South America.*

By JOHN MIERS, Esq., F.R.S., F.L.S.

[Continued from p. 256.]

THINOGETON.

THIS interesting genus was founded by Mr. Bentham upon one of the plants collected on the coast of the Pacific, near Guayaquil, during the voyage of the 'Sulphur;' it is identical with *Dictyocalyx*, proposed by Dr. Hooker for a plant obtained by Mr. Darwin in one of the islands of the Gallapagos group. In many respects its characters approach so closely upon *Cacabus*, that some might feel disposed to consider them as congeneric; its habit, however, is not so herbaceous, its stems are more straggling, terete, and though fistulose, are more woody; the petiole is rounder, thicker, and grows to an unusual length (three or four times that of the blade) after the full growth of the leaf; the corolla is less campanular, more infundibuliform, and after the impregnation of the ovarium, coils up spirally as in *Convolvulus*, and remains attached to the calyx until the fruit is matured; the stamens are more unequal and shorter, the filaments less slender and more arched at their origin than in *Cacabus*; the epigynous gland crowning the ovarium is much larger, more than hemispherical, being gradually lost in the texture of the more slender basal portion, while in *Cacabus* it is distinct, prominent, and much smaller, rising on the summit of the germen, like a small bulbular expansion of the style. A still more marked difference is seen in the calyx, which in the florescent state in *Thinogeton*, is of much smaller diameter, quite tubular and invests the contracted base of the corolla; it is of thicker texture, and